REMARKS

The Applicant has carefully considered this application in connection with the Examiner's Action and respectfully requests reconsideration of this application in view of the foregoing amendments and the following remarks.

The Applicant has amended Claim 29 and added new Claims 36-39. Support for the amendment to Claims 29 and new Claims 36 and 40 include Fig. 9 and associated text on page 8-9 of the Specification. New Claims 37-39 contain language previously presented in Claim 29. Accordingly, Claims 29, 34-40 are currently pending in the application.

I. Rejection of Claims under 35 U.S.C. §103

The Examiner has rejected Claim 29 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,853,601 to Krishaswamy, *et al.* ("Krishaswamy"). The Examiner has rejected Claims 34 and 35 under 35 U.S.C. §103(a) as being unpatentable over Krishaswamy in view of U.S. Patent 4,482,445 to Fjelstad ("Fjelstad").

The Applicant respectfully disagrees.

The Applicant maintains that Krishaswamy does not anticipate Claim 29, because the Examiner has not established that Krishaswamy teaches or suggests a plurality of openings that are arranged in a predetermined pattern along laterally opposing sides of the patterned conductive layer. Rather, as shown in Krishaswamy's Fig. 5D or Fig. 6 there is only a single window 113 each of the laterally opposing sides of Krishaswamy's lower input electrode 105, piezoelectric layer 107 and upper output electrode 109.

Fjelstad as applied by the Examiner fails to cure the deficit teachings or suggestions of Krishaswamy insofar as the Examiner only applies Fjelstad in the rejection of Claim 34 for the

proposition of disclosing a dielectric laminate comprising a plurality of holes wherein the edges are smoothly rounded (Examiners Detailed Action, Section 3).

Concerning the rejection of Claim 34, the Applicant maintains that the asserted combination of Krishaswamy in view of Fjelstad fails to establish a *prima facie* case of obviousness because the Examiner has not established that the asserted combination teaches or suggests all elements of Claim 34, and because the asserted combination is improper.

The Applicants submit that the Examiner has not established that Krishaswamy in view of Fjelstad teaches or suggests a dielectric layer having a plurality of openings, where each opening has respective rounded over edges adjacent first and second major surfaces of the dielectric layer. The Examiner asserts that Fjelstad teaches a dielectric laminate comprising a plurality of holes wherein the edges are smoothly rounded (Examiner's Detailed Action, Section 3). The Applicants disagree that that section of Fjelstad teaches that holes in a dielectric layer have rounded over edges adjacent first and second major surfaces of the dielectric layer, as recited in Claim 34. The section of Fjelstad relied on by the Examiner states:

> it is an ancillary objective of the invention to provide a process for uniformly removing metal clad from the peripheral lips surrounding thru-hole perforations extending through a perforate clad dielectric laminate so as to form smooth rounded hole edges, thereby diffusing stresses normally concentrated at the hole edges and minimizing "corner crack" failure of the type typically encountered with printed circuit or wiring boards and similar perforate metal clad dielectric laminates. (Emphasis added, Fjelstad, Column 3, Lines 51-60)

From this text it is apparent that it is a metal cladding that is smoothed by Fjelstad, not a dielectric layer. This is further supported by recognizing that Fjelstad is directed to electrochemically deburring perforated metallic clad dielectric laminates (Fjelstad, Abstract). For instance, elsewhere Fjelstad states that,

> the resulting electrochemically deburred products are characterized by the smooth, uniformly rounded peripheral edges in the clad as depicted in FIGS. 4 and 5, thereby substantially minimizing the problem of "corner crack" failure which has heretofore existed with this type of laminate. And, of course, those skilled in the art will appreciate that in printed wiring boards or the like of the type herein described, the presence of a single defect such as a "corner crack" or turned over burr which preferentially plates and reduces hole diameter to a useless dimension in just one thru-hole can, and normally will, result in rejection of the entire circuit board. (Emphasis added, Fjelstad, Column 9, Line 62 to Column 10 Line 6)

Therefore, the Applicant respectfully maintains that the Examiner has not established a prior art teaching or suggestion of a dielectric layer having a plurality of openings wherein each opening has respective rounded over edges adjacent first and second major surfaces of the dielectric layer, as recited in Claim 34.

In addition, the Examiner has not presented a proper motive for one of ordinary skill in the art to combine Krishaswamy and Fjelstad. The motive for combining these references asserted by the Examiner is that it would have been obvious to one of ordinary skill in the art to:

> have rounded edges as taught by Fjelstad on both sides of the dielectric taught by Krishaswamy as to diffuse stress normally concentrated at the hole edges and minimizing "corner crack" (Examiner's Detailed Action Section 3)

As discussed above, it is apparent that the above-cited portion of Fjelstad (Fjelstad, Column 3, Lines 51-60) that is relied on by the Examiner is referring to the smoothing of holes in the metal cladding of Fjelstad's metallic clad dielectric laminate, and not the dielectric layer. The Applicant submits that such a disclosure by Fjelstad would not motivate one of ordinary skill in the art to smooth the rectangular windows 113 in Krishaswamy's dielectric membrane 103 (see Krishaswamy, Figs. 5D and 6) because Fjelstad is smoothing a metal cladding to diffuse stress and minimize cracks and stresses in a metal cladding, and not in a dielectric layer. Moreover, the reason Fjelstad gives for wanting to smooth cracks appears to be specific to holes made in metal claddings: a "corner crack" or turned over burr will be preferentially metal plated and thereby reduce the hole diameter to a

useless dimension (see above-quoted text of Fjelstad, Column 9, Line 62 to Column 10 Line 6). Therefore, because the Examiner has not provided motive to combine Krishaswamy and Fjelstad, this is an improper combination to use in the Examiner's rejection of Claim 34.

Additionally, the Applicants wish to note for the record that the Examiner has not properly established that Krishaswamy teaches or suggests that each opening has a diameter in a range of about .5 to 20 μm as now recited in Claim 39. The Examiner asserted that an opening having a diameter in the range recited in Claim 39 can be estimated from Krishaswamy's Fig. 5D, just by looking at the ratio or proportion of the thickness of dielectric 103 and the window 113 present in Fig. 5D (Examiner's Detailed Action, Section 2).

The Applicants maintain that it is improper to estimate a size of Krishaswamy's windows based on the relative proportions of the thickness of the dielectric layer 103 to the size of the window 113. The MPEP §2125 prohibits using proportions of features in a drawing as evidence of actual proportions, when the drawings are not to scale. In addition, Courts have found that when the reference does not disclose that the drawings are to scale, and is silent as to dimensions, arguments based on measurement of the drawing features are of little value. *Hockerson-Halberstadt, Inc. v. Avia Group Int'l*, 222 F.3d 951, 956, 55 USPQ2d 1487, 1491 (Fed. Cir. 2000). With respect to the cross-sectional structural views presented in Figs. 5A-5G, Krishaswamy specifically states that:

> it is to be understood that the cross-sectional views are <u>not particularly illustrated to scale</u> and that shapes of the various features are exaggerated for the purpose of furthering understanding of the preferred embodiment. (Emphasis added, Krishaswamy, Column 5, Lines 28-32).

Accordingly, the Applicant submits that it is improper to use proportions from Krishaswamy drawings to establish obviousness of the range of the diameter recited in Claim 39.

In view of the foregoing remarks, the cited references do not support the Examiner's rejection of Claims 29, and its dependent claims under 35 U.S.C. §103(a). The Applicants therefore respectfully request the Examiner to withdraw these rejections.

II. Conclusion

In view of the foregoing amendment and remarks, the Applicant now sees all of the Claims currently pending in this application to be in condition for allowance and therefore earnestly solicits a timely Notice of Allowance for Claims 29, 34-39. It is not believed that any fees are due regarding this matter; however, the Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 08-2395.

The Applicant requests the Examiner to telephone the undersigned attorney of record at (972) 480-8800 if such would further or expedite the prosecution of the present application. The Commissioner is hereby authorized to charge any fees, credits or overpayments to Deposit Account 08-2395.

Respectfully submitted,

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